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Tracey Simmons  
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Nicholas P. Barker et al.      Art Unit: 1645  
Serial No.: 10/698,572      Examiner:  
Filed: October 31, 2003      Customer No.: 21559  
Title: TREFOIL DOMAIN-CONTAINING POLYPEPTIDES AND USES  
THEREOF

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
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INFORMATION DISCLOSURE STATEMENT

Applicants submit the references listed on the enclosed Form PTO-1449, copies of which are enclosed, with the exception of U.S. patents and U.S. patent application publications.

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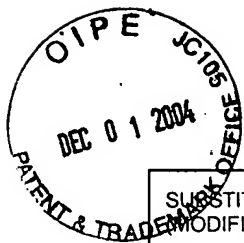
Respectfully submitted,

Date: 11/24/04

  
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SUBSTITUTE FORM PTO-1449  
(MODIFIED)U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICEINFORMATION DISCLOSURE  
STATEMENT BY APPLICANT  
(Use several sheets if necessary)

(37 C.F.R. §1.98(b))

Attorney Docket No.	50206/012002
Serial No.	10/698,572
Applicant	Nicholas P. Barker et al.
Filing Date	October 31, 2003
Group	1645
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## U.S. PATENT DOCUMENTS

Examiner's Initials	Document Number	Issue/ Publication Date	Patentee	Class	Subclass	Filing Date (If Appropriate)
	4,370,317	Jan. 1983	Jorgensen et al.			
	5,703,047	Dec. 1997	Wilson			
	5,783,416	Jul. 1998	Thim et al.			
	5,830,706	Nov. 1998	Mascarenhas et al.			
	5,843,701	Dec. 1998	Gold et al.			
	6,063,755	May 2000	Podolsky			
	6,221,840	Apr. 2001	Podolsky			
	6,316,218	Nov. 2001	Podolsky			
	6,426,404	Jul. 2002	Podolsky			
	2002-0119104 A1	Aug. 2002	Rosenthal et al.			
	2002-0151472 A1	Oct. 2002	Thim et al.			
	2002-0187487 A1	Dec. 2002	Goldenring et al.			
	2003-0032585 A1	Feb. 2003	Thim et al.			
	2003-0153496 A1	Aug. 2003	Thim et al.			
	2003-0215431 A1	Nov. 2003	Thim et al.			

## FOREIGN PATENT DOCUMENTS

Examiner's Initials	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation (Yes/No)
	WO 92/14837	Sep. 1992	WIPO			
	WO 94/17102	Aug. 1994	WIPO			

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Examiner's Initials	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation (Yes/No)
	WO 96/06861	Mar. 1996	WIPO			abstract only
	WO 97/38712	Oct. 1997	WIPO			
	WO 98/30592	Jul. 1998	WIPO			
	WO 99/18927	Apr. 1999	WIPO			
	WO 00/20868	Apr. 2000	WIPO			
	WO 00/74655 A2	Dec. 2000	WIPO			
	WO 01/02570 A1	Jan. 2001	WIPO			
	WO 01/29269 A2	Apr. 2001	WIPO			
	WO 02/102399 A2	Dec. 2002	WIPO			
	WO 02/102403 A1	Dec. 2002	WIPO			
	WO 03/068817 A1	Aug. 2003	WIPO			
	WO 2004/064860 A1	Aug. 2004	WIPO			
	FR 2769502	Apr. 1999	France			abstract from WO 99/18927
OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PLACE OF PUBLICATION)						
	Alderman et al., "Insights into the mechanisms of gastric adaptation to aspirin-induced injury: A role for regenerating protein but not trefoil peptides," <i>Lab. Invest</i> 83:1415-1425 (2003)					
	Babyatsky et al., "Trefoil peptides protect against ethanol and indomethacin induced gastric injury in rats," <i>Gastroenterology</i> 106:A43 (1994)					
	Babyatsky et al., "Oral trefoil peptides protect against ethanol- and indomethacin-induced gastric injury in rats" <i>Gastroenterology</i> 110:489-497 (1996)					
	Beck et al., "Growth factors in inflammatory bowel disease" <i>Inflammatory Bowel Disease</i> 5(1):44-60 (1999)					
	Beers, "The Merk Manual of Diagnosis and Therapy, Seventeenth Edition" pages 556-568, 1044-1050 and 1110-1113 (1999)					
	Botoman et al., "Management of Inflammatory Bowel Disease" <i>American Family Physician</i> 57:57-68 (1998)					

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	Byrne et al., "rHuKGF ameliorates symptoms in DSS and CD4 <sup>+</sup> CD45RB <sup>HI</sup> T cell transfer mouse models of inflammatory bowel disease" <i>Am. J. Physiol. Gastrointest. Liver Physiol.</i> 282:G690-G701 (2002)
	Dignass et al., "Trefoil peptides promote epithelial migration through a transforming growth factor $\beta$ -independent pathway" <i>J. Clin. Invest.</i> 94:376-383 (1994)
	Falk et al., "Expression of a human $\alpha$ -1,3/4-Fucosyltransferase in the pit cell lineage of FVB/N mouse stomach results in production of Le <sup>b</sup> -containing glycoconjugates: a potential transgenic mouse model for studying <i>Helicobacter pylori</i> infection" <i>Proc. Natl. Acad. Sci. USA</i> 92:1515-1519 (1995)
	Frandsen et al., "Receptor binding of pancreatic spasmolytic polypeptide (PSP) in rat intestinal mucosal cell membranes inhibits the adenylate cyclase activity" <i>Regulatory Peptides</i> 16:291-297 (1986)
	Hanby et al., "Expression of the trefoil peptides pS2 and human spasmolytic polypeptide (hsp) in barrett's metaplasia and the native oesophageal epithelium: delineation of epithelial phenotype," <i>J. of Pathology</i> 173:213-219 (1994)
	Hauser et al., "hP1.B, a human P-domain peptide homologous with rat intestinal trefoil factor, is expressed also in the ulcer-associated cell lineage and the uterus" <i>Proc. Natl. Acad. Sci. USA</i> 90:6961-6965 (1993)
	Hawkey et al., "Gastrointestinal safety of AZD3582, a cyclooxygenase inhibiting nitric oxide donor: proof of concept study in humans," <i>Gut</i> 52:1537-1542 (2003)
	Itoh et al., "A paradoxical reduction in susceptibility to colonic injury upon targeted transgenic ablation of goblet cells" <i>The Journal of Clinical Investigation</i> 104(11):1539-1547 (1999)
	Itoh et al., "Goblet-cell-specific transcription of mouse intestinal trefoil factor gene results from collaboration of complex series of positive and negative regulatory elements" <i>Biochem. J.</i> 341:461-472 (1999)
	Iwakiri et al., "A silencer inhibitor confers specific expression of intestinal trefoil factor in gobletlike cell lines" <i>Am. J. Physiol. Gastrointest. Liver Physiol.</i> 280:G1114-G1123 (2001)
	Iwakiri et al., "Keratinocyte growth factor promotes goblet cell differentiation through regulation of goblet cell silencer inhibitor" <i>Gastroenterology</i> 120:1372-1380 (2001)
	Jakowlew et al., "Sequence of the pS2 mRNA induced by estrogen in the human breast cancer cell line MCF-7" <i>Nucleic Acids Res.</i> 12:2861-2878 (1984)
	Jeffrey et al., "Spasmolytic polypeptide: A trefoil peptide secreted by rat gastric mucous cells" <i>Gastroenterology</i> 106:336-345 (1994)
	Jorgensen et al., "Pancreatic spasmolytic polypeptide (PSP): I. Preparation and initial chemical characterization of a new polypeptide from porcine pancreas" <i>Regulatory Peptides</i> 3:207-219 (1982)
	Jorgensen et al., "Pancreatic spasmolytic polypeptide (PSP): III. Pharmacology of a new porcine pancreatic polypeptide with spasmolytic and gastric acid secretion inhibitory effects" <i>Regulatory Peptides</i> 3:231-243 (1982)
	Juhász et al., "Repopulation of langerhans cells during wound healing in an experimental human skin/SCID mouse model" <i>Immunology Letters</i> 52:125-128 (1996)

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<div style="display: flex; justify-content: space-between;"> <div>           INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)         </div> <div>           (37 C.F.R. §1.98(b))         </div> </div>			

	Kanai et al., "Intestinal trefoil factor induces inactivation of extracellular signal-regulated protein kinase in intestinal epithelial cells" <i>Proc. Natl. Acad. Sci. USA</i> 95:178-182 (1998)
	Kannan et al., "Human pS2/trefoil factor 1: production and characterization in <i>pichia pastoris</i> " <i>Protein Expression and Purification</i> 21:92-98 (2001)
	Kato et al., "Effects of growth factors and trefoil peptides on migration and replication in primary oxyntic cultures" <i>Am. J. Physiol.</i> 276 ( <i>Gastrointest. Liver Physiol.</i> 39): G1105-G1116 (1999)
	Kindon et al., "Trefoil peptide protection of intestinal epithelial barrier function: cooperative interaction with mucin glycoprotein" <i>Gastroenterology</i> 109:516-523 (1995)
	Kinoshita et al., "Distinct pathways of cell migration and antiapoptotic response to epithelial injury: structure-function analysis of human intestinal trefoil factor" <i>Molecular and Cellular Biology</i> 20(13):4680-4690 (2000)
	Lefebvre et al., "The mouse one P-Domain (pS2) and two P-Domain (mSP) genes exhibit distinct patterns of expression," <i>J. Cell Biol.</i> 122:191-198 (1993)
	Lemerclinier et al., "High-resolution solution structure of human intestinal trefoil factor and functional insights from detailed structural comparisons with the other members of the trefoil family of mammalian cell motility factors" <i>Biochemistry</i> 40:9552-9559 (2001)
	Mashimo et al. "Impaired defense of intestinal mucosa in mice lacking intestinal trefoil factor" <i>Science</i> 274:262-265 (1996)
	Modlin et al., "Trefoil Peptides: Mitogens, Motogens, or Mirages?" <i>J. Clin. Gastroenterol</i> 25(Suppl. 1):S94-S100 (1997)
	Mori et al., "Identification of a polypeptide secreted by human breast cancer cells (MCF-7) as the human estrogen-responsive gene (pS2) product" <i>Biochem. Biophys. Res. Comm.</i> 155:366-372 (1988)
	Muskett et al., "Solution structure of the disulfide-linked dimer of human intestinal trefoil factor (TFF3): The intermolecular orientation and interactions are markedly different from those of other dimeric trefoil proteins," <i>Biochemistry</i> 42:15139-15147 (2003)
	Oertel et al., "Trefoil factor family – peptides promote migration of human bronchial epithelial cells" <i>Am. J. Respir. Cell Mol. Biol.</i> 25:418-424 (2001)
	Ogata et al., "Identification of a goblet-cell-specific enhancer element in the rat intestinal trefoil factor gene promoter bound by a goblet cell nuclear protein" <i>The Journal of Biological Chemistry</i> 273(5):3060-3067 (1998)
	Ogata et al., "Trefoil peptide expression and secretion is regulated by neuropeptides and acetylcholine" <i>Am. J. Physiol.</i> 273 ( <i>Gastrointest. Liver Physiol.</i> 36):G348-G354 (1997)
	Okayasu et al., "A novel method in the induction of reliable experimental acute and chronic ulcerative colitis in mice" <i>Gastroenterology</i> 98:694-702 (1990)
	Paulsen et al., "TFF peptides in the human efferent tear ducts" <i>Investigative Ophthalmology &amp; Visual Science</i> 43:3359-3364 (2002)

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	Playford, "Trefoil peptides: what are they and what do they do?" <i>Journal of the Royal College of Physicians of London</i> 31(1):37-41 (1997)
	Podolsky et al., "Human colonic goblet cells - demonstration of distinct subpopulations defined by mucin-specific monoclonal antibodies" <i>J. Clin. Invest.</i> 77:1263-1271 (1986)
	Podolsky et al., "Identification of human intestinal trefoil factor" <i>J. of Biol. Chem.</i> 268:6694-6702 (1993)
	Podolsky et al., "Latent transformed growth-inhibiting factor in human malignant effusions" <i>Cancer Res.</i> 48:418-424 (1988)
	Poulsen et al., "Injected TFF1 and TFF3 bind to TFF2-immunoreactive cells in the gastrointestinal tract in rats," <i>Reg. Peptides</i> 115:91-99 (2003)
	Poulsom et al., "Trefoil peptides: a newly recognized family of epithelial mucin-associate molecules," <i>Am. J. Physiol.</i> 365:G205-213 (1993)
	Rio et al., "Breast cancer-associated pS2 protein: Synthesis and secretion by normal stomach mucosa" <i>Science</i> 241:705-708 (1988)
	Sands et al., "The trefoil peptide family" <i>Annual Review of Physiology</i> 58:253-273 (1996)
	Sands et al., "Molecular cloning of the rat intestinal trefoil factor gene" <i>The Journal of Biological Chemistry</i> 270(16):9353-9361 (1995)
	Segars et al., "Mesalamine and osalazine: 5-aminosalicylic acid agents for the treatment of inflammatory bowel disease" <i>Clinical Pharmacy</i> 11:514-528 (1992)
	Stein et al., "Comparative tolerability of treatments for inflammatory bowel disease" <i>Drug Safety</i> 23:429-448 (2000)
	Suemori et al., "Identification and characterization of rat intestinal trefoil factor: Tissue- and cell-specific member of the trefoil protein family" <i>Proc. Natl. Acad. Sci. USA</i> 88:11017-11021 (1991)
	Taupin et al., "Intestinal trefoil factor confers colonic epithelial resistance to apoptosis" <i>Proc. Nat. Acad. Sci.</i> 97(2):799-804 (2000)
	Taupin et al., "Mitogen-activated protein kinase activation regulates intestinal epithelial differentiation" <i>Gastroenterology</i> 116:1072-1080 (1999)
	Thim et al., "Pancreatic spasmolytic polypeptide (PSP): II. Radioimmunological determination of PSP in porcine tissues, plasma and pancreatic juice" <i>Regulatory Peptides</i> 3:221-230 (1982)
	Thim et al., "Characterization of human and rat intestinal trefoil factor produced in yeast" <i>Biochemistry</i> 34:4757-4764 (1995)
	Thim et al., "The amino acid sequence of pancreatic spasmolytic polypeptide" <i>Biochem. Biophys. Acta.</i> 827:410-418 (1985)
	Thim, "Trefoil peptides: A new family of gastrointestinal molecules," <i>Digestion</i> 55:353-360 (1994)

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